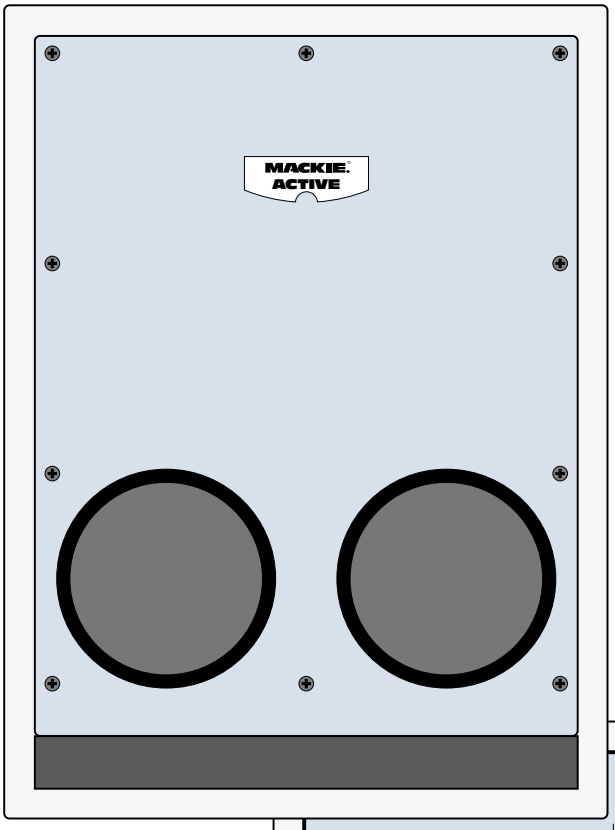
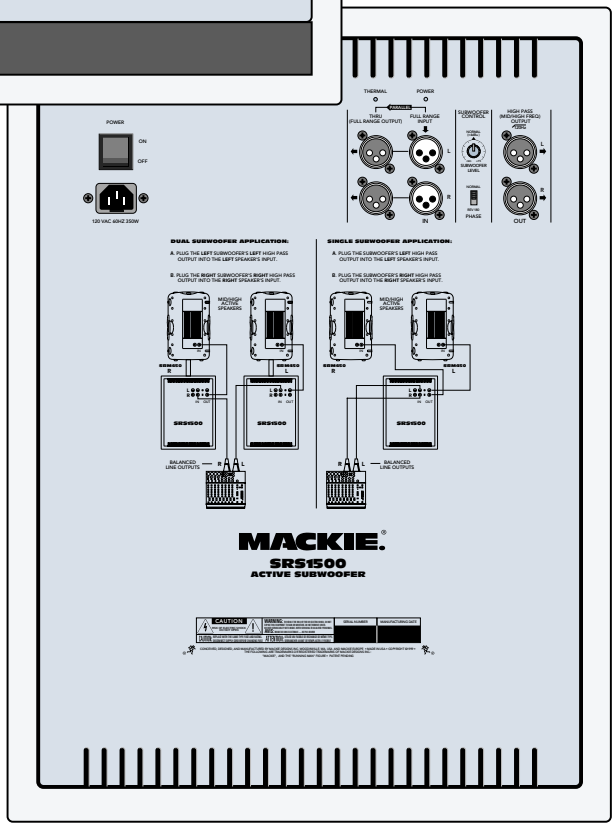
SRS1500
ACTIVE SUBWOOFER
SYSTEM USER'S MANUAL





HOME

CAUTION ***AVIS***

RISK OF ELECTRIC SHOCK
DO NOT OPEN

RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

ATTENTION: POUR EVITER LES RISQUES DE CHOC ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE. AUCUN ENTRETIEN DE PIECES INTERIEURES PAR L'USAGER. CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE.
AVIS: POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, N'EXPOSEZ PAS CET ARTICLE A LA PLUIE OU A L'HUMIDITE

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'éléctrocution.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour le fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.

SAFETY INSTRUCTIONS

1. Read Instructions — All the safety and operation instructions should be read before this Mackie product is operated.

2. Retain Instructions — The safety and operating instructions should be kept for future reference.

3. Heed Warnings — All warnings on this Mackie product and in these operating instructions should be followed.

4. Follow Instructions — All operating and other instructions should be followed.

5. Water and Moisture — This Mackie product should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, swamp or salivating St. Bernard dog, etc.

6. Ventilation — This Mackie product should be situated so that its location or position does not interfere with its proper ventilation. For example, the Component should not be situated on a bed, sofa, rug, or similar surface that may block any ventilation openings, or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through ventilation openings.

PORTABLE CART WARNING

Carts and stands - The Component should be used only with a cart or stand that is recommended by the manufacturer.
A Component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the Component and cart combination to overturn.

7. Heat — This Mackie product should be situated away from heat sources such as radiators, or other devices which produce heat.

WARNING: The heatsink may reach high temperatures during standard use. To ensure proper operation, allow a minimum of 6 inches of clearance from the heatsink surface and adequate ventilation.

8. Power Sources — This Mackie product should be connected to a power supply only of the type described in these operation instructions or as marked on this Mackie product.

9. Power Cord Protection — Power supply cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit this Mackie product.

10. Object and Liquid Entry — Care should be taken so that objects do not fall into and liquids are not spilled into this Mackie product.

11. Damage Requiring Service — This Mackie product should be serviced only by qualified service personnel when:

A. The power-supply cord or the plug has been damaged; or

B. Objects have fallen, or liquid has spilled into this Mackie product; or

C. This Mackie product has been exposed to rain; or

D. This Mackie product does not appear to operate normally or exhibits a marked change in performance; or

E. This Mackie product has been dropped, or its chassis damaged.

12. Servicing — The user should not attempt to service this Mackie product beyond those means described in this operating manual. All other servicing should be referred to the Mackie Service Department.

13. To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Pour préevenir les chocs électriques ne pas utiliser cette fiche polariseé avec un prolongateur, un prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans laisser aucune pariie à découvert.

14. Grounding or Polarization — Precautions should be taken so that the grounding or polarization means of this Mackie product is not defeated.

15. This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

ATTENTION *—Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant las limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.*

WARNING — To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

Lend Me Your Ears

Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible noise level exposures shown in this chart.

According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound-pressure levels, it is recommended that all persons exposed to equipment capable of producing these levels use hearing protectors while this unit is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss if exposure is in excess of the limits set forth here.

Duration Per Day In Hours	Sound Level dBA, Slow Response	Typical Example
8	90	Duo in small club
6	92	
4	95	Subway Train
3	97	
2	100	Very loud classical music
1.5	102	
1	105	Patrice screaming at Ron about deadlines
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

The SRS1500 can produce a maximum SPL of 123 dB @ 1m

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INTRODUCTION

Thank you for choosing Mackie Designs' active sound reinforcement speaker systems.

The SRS1500 is a high output active subwoofer system. It features a high-precision 15″ transducer combined with application specific amplifier technology. The system is composed of a single, compact subwoofer cabinet with built-in control and amplifier electronics.

Connecting and setting up the SRS1500 is a breeze. It accepts a stereo line-level signal via female XLR input jacks. Male XLR Thru jacks are provided for daisy-chaining the signal to additional SRS1500 cabinets. The built-in crossover separates the low frequencies from the high frequencies, and routes the high frequencies to the male XLR high-pass output jacks. Connect these to the inputs of full-range active speakers such as the Mackie Designs SRM450s, or to an amplifier powering a pair of passive speakers such as the Mackie Designs M•1400i and C300s. A Phase switch gives you the option of reversing the phase to the full-range speakers by 180°. A Subwoofer Level control allows you to adjust the balance between the subwoofer and the full-range speakers.

The built-in amplifier produces 600 watts of continuous power. The amplifier module sits on a mammoth heatsink that eliminates the need for fans, dramatically extending life expectancy, and eliminating maintenance cycles. A tremendous benefit of having the amplifier located within the subwoofer cabinet is that the SRS1500 functions as a system, optimizing acoustic, electronic, and mechanical designs to achieve the highest level of performance and value.

The cabinet is constructed with 18mm thick multi-layered birch plywood. Carrying handles are integrated into each side for easy loading and transport.

Don't forget to visit our website at www.mackie.com
for more information about this and other Mackie products.

Part No. 820-187-00 Rev. B 8/00
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REAR PANEL DESCRIPTION

❶ POWER Switch

Use this switch to turn the SRS1500 on and off. Make sure the signal source's level control is turned down before you turn it on.

❷ AC Receptacle

This is where you connect the AC linecord to provide AC power to the SRS1500's built-in power amplifiers. Plug the linecord into an AC socket properly configured for your particular model.

❸ THERMAL Indicator

The SRS1500 has a built-in limiter and thermal protection circuit that protects the amplifier and transducer. The protection indicator lights when the limiter is activated. If the protection indicator blinks frequently or lights continuously, turn down the signal source's level control until the protection indicator only blinks occasionally.

If the internal temperature should exceed a safe operating level, the signal mutes to allow the amplifier to cool. When the temperature cools to a safe level once again, the thermal protection circuit deactivates and normal operation continues.

Note: Activation of the thermal protection circuit is an indication that you should take steps to avoid continued thermal problems. See "Thermal Considerations" on page 6.

❹ POWER Indicator

When the POWER switch is turned on and the linecord is connected to an active AC power supply, this indicator lights green to let you know that you're ready to rock and roll. The cool blue LED on the front of the cabinet works in the same way.

❺ FULL RANGE INPUT

These are female XLR-type connectors that accept a balanced line-level signal from a mixing console or other signal source.

❻ THRU (FULL RANGE OUTPUT)

These are male XLR-type connectors that produce exactly the same signal that is connected to the FULL RANGE INPUT jack. Use it to daisy-chain several SRS1500s together off the same signal source.

❼ HIGH PASS (MID/HIGH FREQ) OUTPUT

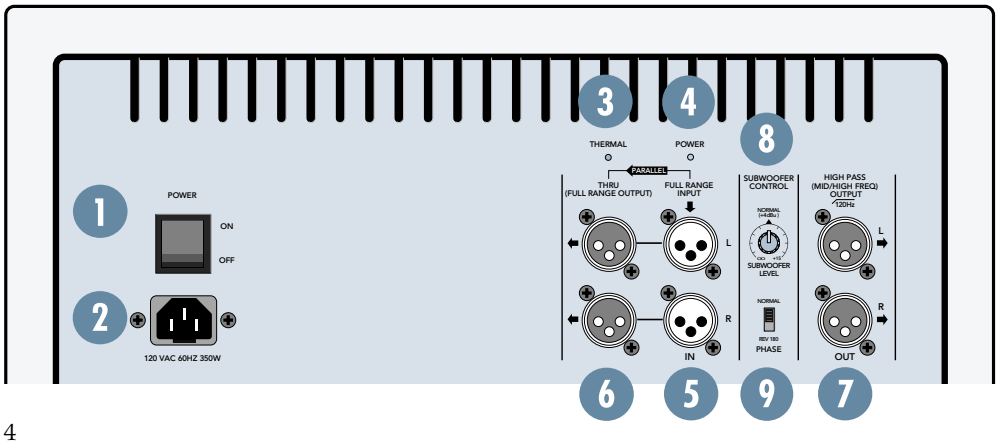
These are male XLR-type connectors that produce the frequencies above 120Hz. Connect these to a pair of full-range active speakers or to an amplifer/passive speaker combination. The SRS1500 reproduces the frequencies below 120Hz.

❽ SUBWOOFER LEVEL Control

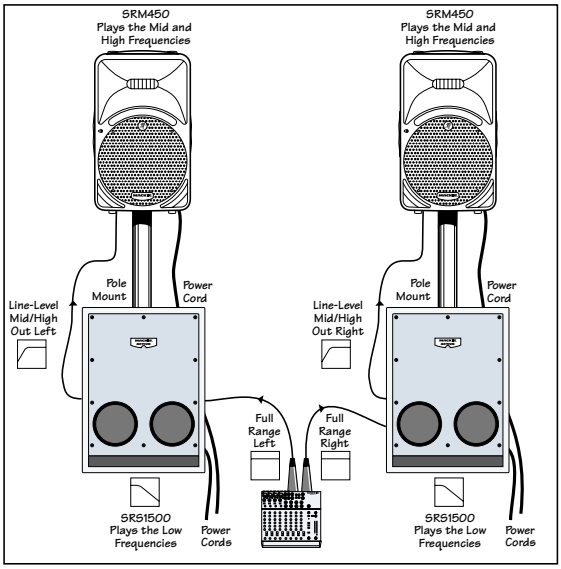
This adjusts the subwoofer level. Use this control to balance the volume between the subwoofer and the full-range speakers. The center detent position is +4 dBu gain, which is the normal position. Unity gain is at the 9 o'clock position.

❾ PHASE

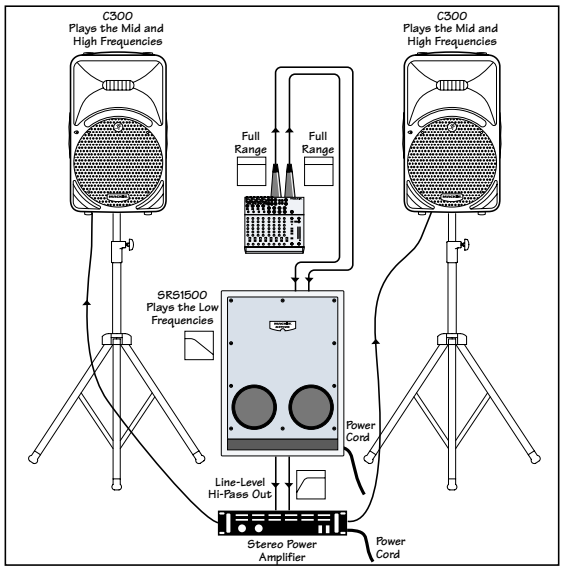
This switch reverses the phase of the signal at the HIGH PASS OUTPUT jacks. Depending on the placement of the SRS1500 subwoofer relative to the full-range speakers, you may get a better low-frequency response in the room if you reverse the phase of the signal. Experiment with this switch to determine which position sounds best.



HOOKUP DIAGRAMS



2 SRS1500s WITH 2 SRM450s

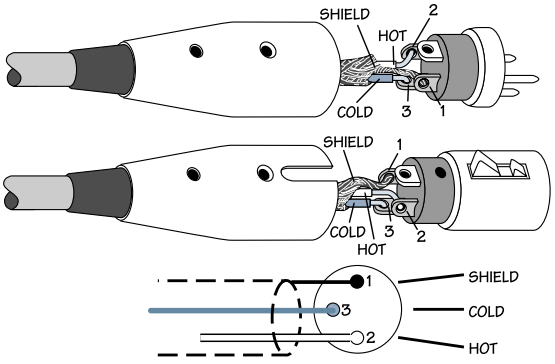


1 SRS1500 WITH STEREO AMPLIFIER AND 2 C300s

CONNECTIONS

The SRS1500 has two female XLR inputs that accept a balanced line-level signal. When connecting a balanced signal, be sure it's wired per AES (Audio Engineering Society) standards:

	XLR
Hot (+)	Pin 2
Cold (–)	Pin 3
Shield (Ground)	Pin 1



Balanced XLR Connectors

There are also four male XLR connectors labeled THRU (FULL RANGE OUTPUT) and HIGH PASS (MID/HIGH FREQ) OUTPUT. These are also wired according to the AES standard.

The THRU output connectors allow you to connect more than one SRS1500 to your system. Simply plug the signal source (i.e., mixer output) into the first speaker's FULL RANGE INPUT jacks, and patch that speaker's THRU jacks to the next speaker's INPUT jacks, and so on, daisy-chaining multiple speakers.

The THRU jack is wired straight from the FULL RANGE INPUT connector — there is no electronic circuitry between — so the signal coming out of the THRU jack is exactly the same as the signal going in.

The HIGH PASS OUTPUT jacks provide a line-level signal of the frequencies above 120Hz that you connect to a pair of active speakers (or to a stereo amplifier powering a pair of passive speakers). See the diagrams on the rear panel of the SRS1500 for additional connection information.

PLACEMENT

The SRS1500 subwoofer is designed to sit on the floor or on sturdy stands.

A socket is provided on the top of the SRS1500 for mounting the Mackie SRM450 active speaker. Use the optional Mackie speaker mounting pole to mount the SRM450 on the SRS1500 (see Hookup Diagram on page 5).

As with any powered components, protect them from moisture. If you are setting them up outdoors, make sure they are under cover if you expect rain.

AC POWER

Be sure the SRS1500 is plugged into an outlet that is able to supply the correct voltage specified for your model. If the voltage should drop below 97% of the specified line voltage, the built-in amplifiers will no longer be able to supply rated power. (They will continue to operate down to 80% of the rated line voltage, but won't reach full power, resulting in lower headroom.)

Be sure the electrical service can supply enough amperage for all the components connected to it.

We recommend that a stiff (robust) supply of AC power be used because the amplifiers place high current demands on the AC line. The more power that is available on the line, the louder the speakers will play and the more peak output power will be available for cleaner, punchier bass. A suspected problem of "poor bass performance" is often caused by a weak AC supply to the amplifiers.

Never remove the ground pin on the power cord of the SRS1500 or any other component. This is very dangerous.

THERMAL CONSIDERATIONS

The SRS1500 has a powerful 600 watt amplifier built-in. As amplifiers produce heat, it is important to dissipate the heat as quickly as possible. This results in increased reliability and longevity for the amplifier.

The amplifier module is mounted on a large heatsink, which is cooled by convection where cool air is drawn through it's fins, carrying the heat away. In order for this convection cooling to work efficiently, it is important to provide adequate airspace behind the loudspeaker. When you position the SRS1500, we recommend leaving at least six inches of air space behind it.

In the unlikely event of the amplifier overheating, a built-in thermal switch will activate, which mutes the signal. When the amplifier has cooled down to a safe operating temperature, the thermal switch resets itself, and the SRS1500 resumes normal operation.

If the thermal switch activates frequently, try turning down the level control a notch or two on the mixing console (or other signal source) or on the subwoofer itself to avoid overheating the amplifiers.

If the temperature in the room is too high, it could cause the amplifier to overheat. In this case, you should try aiming a fan at the rear panel to move more air across the heatsink panel.

SERVICE INFORMATION

Warranty Service

If you think your subwoofer has a problem, please do everything you can to confirm it before calling for service, including reading through the following Troubleshooting section. Doing so might save you from being deprived of your Mackie loudspeaker.

Of all Mackie products returned for service (which is hardly any at all), many are coded "CND" — Could Not Duplicate— which usually means the problem lay somewhere else in the system. The following troubleshooting tips may sound obvious, but here are some things you can check:

Troubleshooting

No power

- Our favorite question: Is it plugged in? Make sure the AC outlet is live (check with a tester or lamp).
- Our next favorite question: Is the POWER switch on? If not, try turning it on.
- Is the POWER LED on the rear panel glowing green? If not, make sure the AC outlet is live. If so, refer to "No sound" below.
- The internal AC line fuse may be blown. This is not a user serviceable part. If you suspect the AC line fuse is blown, please see the REPAIR section next.

No sound

- Is the input LEVEL control for the input source or the subwoofer turned all the way down? Verify that all the volume controls in the system are properly adjusted.
- Is the signal source working (and making union scale)? Make sure the connecting cables are in good repair and securely connected at both ends. Make sure the output volume (gain) control on the mixing console is turned up sufficiently to drive the inputs of the speaker.
- Make sure the mixer does not have a Mute on or a Processor loop engaged. If you find something like this, make sure the volume/gain is turned down before disengaging the offending switch.
- Is the THERMAL indicator lit red on the rear panel? Make sure there is at least six inches of free space behind the SRS1500.

Poor bass performance

- Check the polarity of the connections between the mixer and the loudspeakers. You may have your positive and negative connections reversed at one end of one cable, causing one loudspeaker to be out-of-phase.
- Try switching the PHASE switch on the rear panel. This affects the polarity between the full-range speakers and the SRS1500 and may improve the low-frequency response.

Poor sound

- Is it loud and distorted? Make sure that you're not overdriving a stage in the signal chain. Verify that all level controls are set properly.
- Is the input connector plugged completely into the jack? Be sure all connections are secure. It's a good idea to periodically clean all electrical connections with a non-lubricating electrical contact cleaner.

Noise

- Make sure all connections to the active loudspeakers are good and sound.
- Make sure none of the signal cables are routed near AC cables, power transformers, or other EMI-inducing devices.
- Is there a light dimmer or other SCR-based device on the same AC circuit as the SRS1500? Use an AC line filter or plug the SRS1500 into a different AC circuit.

Hum

- Try disconnecting the cable connected to the INPUT jack. If the noise disappears, it could be a "ground loop," rather than a problem with the SRS1500. Try some of the following troubleshooting ideas:
- Use balanced connections throughout your system for the best noise rejection.
- Whenever possible, plug all the audio equipment's linecords into outlets which share a common ground. The distance between the outlets and the common ground should be as short as possible.

REPAIR

Service for the SRS1500 is available only from one of our authorized domestic service stations or at the factory, located in sunny Woodinville, Washington. Service outside the United States can be obtained through local dealers or distributors.

If your SRS1500 needs service, please follow these instructions:

1. Review the preceding troubleshooting suggestions. Please.
2. Call Tech Support at 1-800-258-6883, 7am to 5pm PST, to explain the problem in detail. They will ask you all sorts of impertinent questions in the hope of sorting out the problem. If it appears that the SRS1500 needs repair, request an RA (Return Authorization) number. Have your subwoofer's serial number ready. You must have an RA number before you can obtain service at the factory or an authorized service center.
3. Keep this user's manual. We don't need it to repair the subwoofer.
4. Pack the subwoofer in its original packaging, including protective wrap, endcaps, and box. This is very important. When you call for the RA number, please let Tech Support know if you need new packaging. *Mackie is not responsible for any damage that occurs due to non-factory packaging.*
5. Include a legible note stating your name, shipping address (no P.O. boxes), daytime phone number, RA number, and a detailed description of the problem, including how we can duplicate it.
6. Write the RA number in BIG PRINT on top of the box.
7. Ship the subwoofer to us. We recommend United Parcel Service (UPS). We suggest insurance for all forms of cartage. Ship to this address:

   Mackie Designs
   SERVICE DEPARTMENT
   16220 Wood-Red Rd. NE
   Woodinville, WA 98072

8. We'll try to fix the subwoofer within three business days. Ask Tech Support for the latest turnaround times when you call for your RA number. We normally send everything back prepaid using UPS BLUE (Second Day Air). However, if you rush your subwoofer to us by Next Day Air, we'll treat it in kind by shipping it back to you UPS RED (Next Day Air). This paragraph does not necessarily apply to non-warranty service.

SPECIFICATIONS

System Specifications

Frequency Range	40Hz–120Hz
Frequency Response (–3 dB)	45Hz–120Hz
Maximum SPL @ 1m	123 dB
Peak Output @ 1m	126 dB
Crossover Frequency	120Hz (12 dB/octave)
Input Type	Balanced differential
Input Impedance	50k ohms
Input Protection	Level protected
Thermal Protection	Input stage muting, auto-reset

Transducer Specifications

Low-Frequency Transducer

Diameter	15″ (381mm)
Voice Coil Diameter	3.0″ (75mm)
Power Handling	350 watts rms

Power Amplifier

Low-Frequency Power Amplifier

Burst Capability	600 watts
Rated THD	< 0.05 %
Cooling	Passive

Line Input Power

US	120V, 60Hz
Europe	230V, 50Hz

Physical Properties

Height	23.25″ (590mm)
Width	17.0″ (432mm)
Depth	23.5″ (597mm)
Weight	100 lbs. (45.4kg)
Enclosure	18mm thick multi-layered baltic birch wood
Enclosure Geometry	Rectangular
Mounting Methods	Floor mount only

Disclaimer

Since we are always striving to make our products better by incorporating new and improved materials, components, and manufacturing methods, we reserve the right to change these specifications at any time without notice.

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